

CHAPTER X



GLOSSARY



A

Acre-foot: A quantity or volume of water covering one acre to a depth of one foot (43,560 cubic feet).

Active Management Area: An initial active management area is a geographical area which has been designated by the Legislature as requiring active management of groundwater or, in the case of the Santa Cruz Active Management Area, active management of any water, other than stored water, withdrawn from a well. Subsequent active management areas may be designated through local initiative or by the director of the Arizona Department of Water Resources.

Ag Pool: The CAWCD sells water to the NIA sector out of the Ag Pool, as available at a subsidized price. The Ag Pool is composed entirely of excess water.

Allocation: An amount of CAP water designated by the Secretary of the Interior as being assigned to a particular user.

Aquifer: An aquifer is a geologic formation that contains sufficient saturated materials to be capable of storing and transmitting water in usable quantities to a well.

Arizona Water Banking Authority (AWBA): The AWBA was formed in 1996 to purchase excess CAP for groundwater recharge. The AWBA uses both direct and indirect (in-lieu) recharge facilities. The groundwater credits will be used in the future for supplies during Colorado River shortage conditions, Indian water rights settlements, and are not available for use in securing an Assured Water Supply.

Assured Water Supply: A developer may not offer to sell or lease in an Active Management Area subdivided lands (six or more lots under 36 acres in size) until it first demonstrates to the Arizona Department of Water Resources that it has a water supply that meets certain criteria. In this regard, the developer has two options: (1) the developer may obtain a certificate of Assured Water Supply from the Arizona Department of Water Resources; or (2) the developer may obtain water service from a water provider whose service area has a designation of Assured Water Supply. Either the developer applying for a certificate of Assured Water Supply or the water provider applying for a designation must demonstrate that it has a water supply that meets the following criteria: (1) the supply is of “adequate quality;” (2) the supply will be continuously available to meet the water needs of the proposed use for at least 100 years; (3) the projected use is consistent with the management plan of the Active Management Area; (4) the projected use is consistent with achievement of the management goal of the Active Management Area; and (5) the financial capability has been demonstrated to construct the water facilities necessary to make the supply of water available for the proposed use, including a delivery system and any storage facilities or treatment works.

C

CAGRD: The Central Arizona Groundwater Replenishment District is operated by the CAWCD and is charged with replenishing groundwater pumped with CAP or other water for

members on an annual basis. Subdivisions, cities, or other entities may enroll their lands in the CAGRDR to allow them to obtain an Assured Water Supply certificate or designation from ADWR. To join, the entities must have physically available groundwater (which may not be otherwise legally available) and must encumber their lands with the CAGRDR tax. The CAGRDR is charged with replenishing member pumped groundwater, as close to the area of hydrologic impact as is practicable, within several years of its withdrawal. The CAGRDR cannot replenish anticipated groundwater withdrawals in advance. A certain amount of direct delivery is allowed to Scottsdale and several other small east-Valley communities. Although the CAGRDR does not currently have a CAP allocation, it is actively seeking one. The CAGRDR was created by the Arizona legislature in 1993 to provide alternatives to Central Arizona communities to meet AWS requirements.

CAP-eligible lands: Only lands with a “recent history of irrigation” prior to the 1968 passage of the CAP authorizing legislation are eligible for CAP irrigation water.

Central Arizona Water Conservation District (CAWCD): The CAWCD is the State entity formed to repay the cost of constructing the CAP. CAWCD also operates the CAP.

Consumptive use: The use of water by plants, animals or humans. This includes evapotranspiration but does not include water that returns to the surface or groundwater system.

Conversion right: A provision allowing for conversion of water rights from agricultural to M&I water supply (at one acre-foot per acre, minus available surface supplies). Intended to supply M&I water to acreage which is urbanized.

D

Darcy’s Law: Equation which relates the flow of groundwater across a boundary to the hydraulic gradient across the boundary (i.e., slope of the groundwater surface), the transmissivity of the aquifer, and the width of the boundary.

Debt Relief: Under the Settlement Alternative, some degree of debt relief to the irrigation districts is being negotiated. This refers to the Reclamation 9(d) loans, which the irrigation districts obtained from the Federal government to help fund the construction of their irrigation distribution systems in order to take delivery of CAP water. The irrigation districts also have private debt in the form of bonds, which helped fund their irrigation distribution system construction.

De minimis: Having minimal impact, significance, or consequence.

Direct Recharge: See Groundwater Recharge.

E

Effluent: Effluent is collected in sewer systems, treated at a wastewater treatment plant, and is available for other uses. Typically, the water is then discharged to effluent-dependent streams

(such as the Gila River downstream of the 91st Avenue Wastewater Treatment Plant), recharged to replenish groundwater, or used for irrigation of turf facilities or non-food crops.

Excess Water: CAP water that is either not under contract or is under contract but is not ordered. Also includes surplus Colorado River water. The CAGRD, Ag Pool, and Recharge Pool rely on excess water.

F

Firming: Refers to the concept of recharging groundwater with the intent of recovering it during periods of shortage when CAP water is not available. Lower priority CAP water, such as NIA-priority, would require “firming” to be comparable to M&I-priority CAP water in terms of reliability.

G

General adjudication: A court action to determine the type, amount, and priority date of every user’s respective water right in a particular watershed or basin.

Groundwater Recharge: The practice of replenishing a groundwater aquifer with surface water, primarily river water or effluent. Direct recharge spreads water on the surface in basins to infiltrate to the aquifer. Indirect or in-lieu recharge delivers water to farmers, who use the surface water in-lieu of groundwater, which would otherwise have been pumped. Whether direct or indirect methods are used, groundwater credits accrue and may be used (pumped) at a later point in time such as during a CAP shortage.

I

In-lieu Recharge: See Groundwater Recharge.

Indirect Recharge: See Groundwater Recharge.

L

Law of the River: A series of treaties, laws, contracts, and agreements that govern the allocation and use of Colorado River water.

M

Manning’s Equation: Channel flow is considered uniform when the flow resistance is just balanced by gravitational force. The depth of flow occurring under conditions of uniform flow is defined as the normal depth. Manning’s Equation is one of the most widely used open channel, uniform flow equations. The equation is used to compute flow velocity for uniform flow conditions. For a known discharge, Manning’s Equation may be used to solve for normal depth.

Municipal and Industrial (M&I) Sector: Includes cities, private water companies, industries, and other water providers. Does not include agricultural irrigation but does include landscape irrigation.

Municipal Planning Area (MPA): Delineated by Maricopa Association of Governments (MAG) for each city and town within Maricopa County, it represents the area of planning concern for a municipality. Minimally, the planning area for each city or town includes all of its incorporated area plus portions of the county surrounded by strip annexations. These areas are filed with the Arizona Department of Water Resources and MAG.

N

Non-Indian Ag (NIA) Sector: The NIA sector is composed of irrigation districts and other agricultural entities.

Normal Year: Sufficient Colorado River supplies are available to provide delivery of 1.415 maf through the CAP system.

P

Phreatophyte: A deep-rooted plant that obtains its water from the water table or the layer of soil just above it.

Priority: Priority refers to the hierarchy of water availability during shortage conditions. Higher priority water would be delivered before lower priority water.

R

RRA: Reclamation Reform Act, which sets single-owner acreage restrictions on farmers receiving CAP water. Under the Settlement Alternative, farmers may be relieved of a degree of RRA acreage-restrictions. RRA applies to all Reclamation irrigation projects except as exempted by Congress.

Reasonably-Priced: Under the Settlement Alternative, CAWCD has committed to providing a “reasonably-priced” Ag Pool for the next 30 years if enough excess water is available. As the intent of the Ag Pool is to provide water at a price at which farmers will buy it, it may be assumed that it will be priced comparably with the price of pumping groundwater.

Recharge: See Groundwater Recharge.

Recharge Pool: As defined for the purposes of this document, the Recharge Pool is excess water which will be used to recharge groundwater for M&I uses. Purchasers of the Recharge Pool water include the AWBA and individual M&I entities. The water may be recharged in direct or indirect (in-lieu) recharge facilities.

S

Safe Yield: Term commonly used to describe groundwater conditions such that groundwater uses are equal to or less than recharge.

Sector: Refers to a description of the use and/or the priority of CAP water. There are three broad sectors of CAP water use: M&I, Indian, and Non-Indian Agriculture.

Service Area: The area currently being served by an M&I entity water provider. It is defined by the presence of distribution pipes of at least four inches in diameter. The Groundwater Code defines the service area of a city, town or private water company as the area of land actually served by the entity and any additional areas that contain an operating distribution system owned by the entity and used primarily for the delivery of non-irrigation water. These areas are filed with the Arizona Department of Water Resources and the Arizona Corporation Commission.

Shortage: Water supply conditions on the Colorado River such that the Secretary of the Interior determines normal contract deliveries cannot be met. If the Secretary of the Interior declares a shortage, a schedule of reduced deliveries would be implemented. For the purposes of this DEIS, a shortage is defined as deliveries of 925,000 acre-feet per year through the CAP system.

Subcontract: A contract for the delivery of CAP water, typically between water users and the delivery agency, CAWCD.

Subsidence: Subsidence is the settling or lowering of the land's surface as a result of groundwater pumping.

Surplus: More Colorado River water is available than in a normal year.

Surplus Water: Surplus water is available on the Colorado River system when the Secretary of the Interior declares surplus conditions. During surplus conditions, the Lower Colorado River Division may divert more than the standard 7.5 maf. Surplus water may be used with fewer restrictions and by more entities than CAP water.

T

Three-party subcontract: A contract among the users, the Secretary, and CAWCD which is required in order for non-Indian CAP allottees to purchase and use CAP water. This contracting mechanism identifies the specific terms and conditions for delivery of CAP water.

Two-party letter agreement: Agreements entered into between NIA subcontractors and CAWCD wherein each party "mutually agreed to waive certain rights and obligations under the Water Service Subcontract." This contracting mechanism identifies the specific terms and conditions for delivery of CAP water.

Note: Some of these definitions are taken from the Phoenix AMA Third Management Plan.